

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - RENEWAL

PERMITTEE

City of Chicago - Department of Water
Attn: Mr. Conrad Bazylewski
Springfield Pumping Station
1000 East Ohio Street
Chicago, Illinois 60611

Application No.: 96090025

I.D. No. : 031600BDQ

Applicant's Designation:

Date Received: April 4, 2002

Subject: Water Pumping Station

Date Issued:

Expiration Date:

Location: 1747 North Springfield Avenue, Chicago

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of four (4) natural gas-fired boilers (total firing rate 184 mmBtu/hr) with distillate fuel oil as back-up pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., less than 100 tons/year for NO_x and SO₂), as further described in Attachment A. As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program (CAAPP) permit.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permit(s) for this location.
- 2a. Emissions and operation of the four boilers (combined) when fired by natural gas shall not exceed the following limits:

Natural Gas Usage			
	<u>(mmscf/Month)</u>	<u>(mmscf/Year)</u>	
	65	593	
<u>Pollutant</u>	Emission Factor	Emissions	
	<u>(Lb/mmscf)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Nitrogen Oxides	100	3.3	29.7
Carbon Monoxide	84	2.8	24.9
Particulate Matter	7.6	0.3	2.3
Volatile Organic Material	5.5	0.2	1.7
Sulfur Dioxide	0.6	0.1	0.2
	Totals	6.7	58.8

These limits are based on maximum natural gas usage and standard AP-42 emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. Emissions and operation of the four boilers (combined) when fired by fuel oil shall not exceed the following limits:

Fuel Oil Usage			
<u>(Gallons/Month)</u>		<u>(Gallons/Year)</u>	
98,400		98,400	
<u>Pollutant</u>	Emission Factor	Emissions	
	<u>(Lb/1000 Gal)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Sulfur Dioxide	39.76	2.0	2.0
Nitrogen Oxides	20.00	1.0	1.0
Carbon Monoxide	5.00	0.3	0.3
Particulate Matter	2.00	0.1	0.1
	Totals	3.4	3.4

These limits are based on maximum fuel oil usage, maximum sulfur content (0.28% by weight), and standard AP-42 emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

3. The New Source Performance Standard for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db, applies to units constructed, reconstructed, or modified after June 19, 1984. All boilers at this site were constructed prior to June 19, 1984, therefore, these rules do not apply.
- 4a. At the above location, the Permittee shall not keep, store, or utilize a distillate fuel oil (Grades No. 1 and 2) with a sulfur content than the larger of the following two values:
- i. 0.28 weight percent, or
 - ii. The wt. percent given by the formula: Maximum wt. percent sulfur = $(0.00005) \times (\text{Gross heating value of the oil in Btu/lb})$.
- b. Organic liquid by-products or waste materials shall not be used at the source without written approval from the Illinois EPA.
- c. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
- d. The Permittee shall notify the Illinois EPA prior to any change in the type of fuel used at the source.

5. The Permittee shall maintain monthly records of the following items:
 - a. Total natural gas usage (mmscf/month and mmscf/year);
 - b. Distillate fuel oil #2 usage (gal/month and gal/year); and
 - c. Sulfur content for the fuel oil #2 (wt %).
6. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
7. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
- 8a. The Permittee shall submit the following additional information from the prior calendar year, along with the Annual Emissions Report, due May 1st of each year:
 - i. Total natural gas usage (mmscf/year).
 - ii. Distillate fuel oil #2 usage (gal/year).
- b. If there have been no exceedances during the prior calendar year, the Annual Emission Report shall include a statement to that effect.
9. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
1340 North Ninth Street
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Agency's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control - Regional Office
9511 West Harrison
Des Plaines, Illinois 60016

It should be noted that the fuel oil storage tanks are exempt from state permit requirements, pursuant to 35 Ill. Adm. Code 201.146(n)(3).

If you have any questions on this, please call Jim Kallmeyer at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JDK:psj

cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
Lotus Notes

Attachment A

This attachment provides a summary of the maximum emission from the pumping station operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a facility. The total distillate fuel oil #2 and natural gas usage are limited the potential to emit of NO_x and SO₂ below major source thresholds. The resulting maximum emissions are below the levels, e.g., 100 tons per year of NO_x and SO₂, at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that material is handled, and control measures are more effective than required in this permit.

- 1a. Emissions and operation of the four boilers (combined) when fired by natural gas shall not exceed the following limits:

Natural Gas Usage			
	<u>(mmscf/Month)</u>	<u>(mmscf/Year)</u>	
	65	593	
<u>Pollutant</u>	<u>Emission Factor</u> <u>(Lb/mmscf)</u>	<u>Emissions</u> <u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Nitrogen Oxides	100	3.3	29.7
Carbon Monoxide	84	2.8	24.9
Particulate Matter	7.6	0.3	2.3
Volatile Organic Material	5.5	0.2	1.7
Sulfur Dioxide	0.6	<u>0.1</u>	<u>0.2</u>
	Totals	6.7	58.8

These limits are based on maximum natural gas usage and standard AP-42 emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. Emissions and operation of the four boilers (combined) when fired by fuel oil shall not exceed the following limits:

Fuel Oil Usage			
	<u>(Gallons/Month)</u>	<u>(Gallons/Year)</u>	
	98,400	98,400	
<u>Pollutant</u>	<u>Emission Factor</u> <u>(Lb/1000 Gal)</u>	<u>Emissions</u> <u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Sulfur Dioxide	39.76	2.0	2.0
Nitrogen Oxides	20.00	1.0	1.0
Carbon Monoxide	5.00	0.3	0.3
Particulate Matter	2.00	<u>0.1</u>	<u>0.1</u>
	Totals	3.4	3.4

Page 2

These limits are based on maximum fuel oil usage, maximum sulfur content (0.28% by weight), and standard AP-42 emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

JDK:psj

PROJECT SUMMARY

I. INTRODUCTION

An application has been submitted by the City of Chicago, Department of Water for renewal of the Federally Enforceable State Operating Permit (FESOP) for its Springfield Pumping Station located at 1747 North Springfield Avenue in Chicago. The limits of this FESOP prevent the facility from being a major source of emissions so that an operating permit does not have to be obtained under the Clean Air Act Permit Program. These limits are accompanied by recordkeeping and reporting requirements to ensure the facility is operated as non-major source. These conditions are enforceable by both the State of Illinois and USEPA.

II. SOURCE DESCRIPTION

This facility is comprised of four natural gas-fired boilers which use distillate fuel oil as back-up fuel and two fuel oil storage tanks.

III. EMISSIONS

The principal air contaminants generated during natural gas and fuel oil combustion are nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), volatile organic material (VOM), and sulfur dioxide (SO_2). These emissions are 30.7, 25.2, 2.4, 2.14, and 2.2 tons per year, respectively.

NO_x is formed thermally by the combination of oxygen and nitrogen in the air at the combustion temperature. CO and VOM are formed from the incomplete combustion of fuel.

IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board emission standards. The Board's emission standards represent the basic requirements for sources in Illinois.

V. PROPOSED PERMIT

The conditions of the existing permit contain limitations and requirements to ensure this plant will be operated as a non-major source. The permit establishes limits on the amounts of natural gas and distillate fuel which can be used. These limits are consistent with the historical operation and capacity of the plant.

The permit conditions also establish appropriate compliance procedures, including inspection practices, recordkeeping requirements, and reporting requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate the facility is operating within the limitations set by the permit and is properly controlling emissions.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this pumping station meets all applicable state and federal air pollution control requirements, subject to the conditions in the existing permit. The Illinois EPA is therefore proposing to renew the FESOP permit for this operation.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions of the draft permit. If substantial public concern is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 166.

JDK: 96090025:jar